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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,528

09/25/2003

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EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/669,528

Applicant(s)

HAYASHI ET AL.

Examiner

Jason M. Greene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17 and 20-34 is/are rejected.
- 7) ☒ Claim(s) 14-16, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/25/03; 3/31/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claims***

2. With regard to claim 26, the Examiner suggests Applicants rewrite the phrase "the water tube" at the end of line 5 as "the water tub" to correct an apparent typographical error.
3. With regard to claim 23, the Examiner suggests Applicants insert a period (.) at the end of line 8 to correct an apparent typographical error.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4, 7, 8, 10, 11 and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Hill et al. (US 6,651,658 B1).

Hill et al. discloses an oxygen enrichment apparatus comprising a main body having an oxygen enriching unit (114) for generating oxygen-enriched air, a suction unit (pump 127) for drawing the oxygen-enriched air from the oxygen enriching unit, a discharge unit (reservoir 129) for discharging the oxygen-enriched air transferred thereto by the suction unit from the oxygen enriching unit via an air passage, and a control unit (160) for controlling the operation of the suction unit, wherein the main body is provided with a display unit for indicating a state of the oxygen-enriched air is being discharged from the discharge unit (see col. 11, line 61 to col. 12, line 4), wherein the oxygen-enriched air has an oxygen concentration of about 35% (about 40% (see col. 1, lines 28-40)), wherein the air passage for guiding the oxygen-enriched air from the oxygen enriching unit to the discharge unit is partially comprised of a flexible connection tube and the oxygen-enriched air is guided via the flexible connection tube to the discharge unit to be discharged therefrom, wherein the discharge unit is detachably installed to the oxygen enrichment unit, wherein the control unit has a timer means for controlling an operation time period during which the oxygen-enriched air is generated, wherein the control unit controls a flow rate of the oxygen-enriched air to be about 1.5 liters per minute or more and sets a timer means such that an operation time of the

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suction unit is any desirable time, including an hour or less, wherein an AC power for driving the suction unit is supplied by converting a DC power thereinto, and wherein a secondary battery is used as a power source for driving the suction unit and the control unit, and a DC power source and the secondary battery are alternately employed as the power source for the suction unit and the control unit in Figs. 1-7 and col. 1, line 28 to col. 14, line 37.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US 6,651,658 B1).

With regard to claim 9, Hill et al. discloses the apparatus comprising a sterile filtration filter in col. 5, lines 51-53, but does not disclose the filter being installed at the discharge unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a second filter at discharge unit to further enhance

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filtration and in that duplication of parts for a multiplied effect is obvious to a person having ordinary skill in the art. See *St. Regis Paper Co. v. Bemis Co. Inc.*, 193 USPQ 8,11.

With regard to claim 25, Hill et al. discloses the discharge unit being provided with a discharge port, but does not teach the opening area of the discharge port being smaller than that of an air outlet port of the suction unit from which the oxygen-enriched air is outputted.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the discharge port having an opening area smaller than the outlet port of the suction unit to avoid having a bottleneck in the apparatus, as is well known in the art.

With regard to claim 28, Hill et al. discloses a silencer (116) being installed in the apparatus, but does not disclose it being installed in the air passage of the oxygen-enriched air.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate another silencer in the apparatus to further enhance sound dampening and in that duplication of parts for a multiplied effect is obvious to a person having ordinary skill in the art. See *St. Regis Paper Co. v. Bemis Co. Inc.*, 193 USPQ 8,11.

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8. Claims 3-5, 7-13, 17, 20-26, 28 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US 6,651,658 B1) in view of Japanese Patent Application Publication JP 62-83304.

Hill et al. discloses the oxygen enriching unit having at least one oxygen enriching membrane (see col. 7, lines 32-43) for generating the oxygen-enriched air, wherein a fan (112) is installed in the main body for supplying air around the membrane, but it does not disclose a condensed water treating unit being installed at an air passage for guiding the oxygen-enriched air from the oxygen enriched unit to the discharge unit via the suction unit.

JP 62-83304 discloses a similar apparatus comprising a condensed water treating unit being installed at an air passage for guiding the oxygen-enriched air from the oxygen enriched unit to the discharge unit via the suction unit, wherein the condensed water treating unit is implemented by allowing air other than the oxygen-enriched air to be introduced into the air passage of the oxygen-enriched air, and a heating unit (12) is installed in the air passage, wherein the condensed water treating unit is a liquid collecting unit (5) provided at the air passage of the oxygen-enriched air, wherein a part of the air passage is a communicating tube connected to a discharge unit and wherein a liquid collecting unit is separately installed at the communicating tube, the liquid collecting unit has a tube (4) protruded thereinto, and the liquid collecting unit is divided into a plurality of parts wherein water gather therein is removed by separating the parts, wherein a water absorbent (11) material or drying agent serving as the condensed water treating unit is provided at the air passage of the oxygen-enriched air,

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wherein a water tub (3 or 5) is installed at the air passage between the oxygen enriching unit and the discharge unit and the oxygen-enriched air is discharged from the discharge unit after passing through the water tub in Fig. 1 and the English language abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the condensed water treatment unit of JP 62-83304 into the apparatus of Hill et al. to remove entrained water from the oxygen-enriched air before delivery, as suggested by JP 62-83304 in Fig. 1 and the English language abstract.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US 6,651,658 B1) and Japanese Patent Application Publication JP 62-83304, and further in view of Breitschwerdt et al. (US 6,332,913 B1).

Hill et al. and JP 62-83314 do not teach the membrane having a substantially rectangular shape wherein a short side thereof is disposed substantially parallel to a direction of flow of the air supplied by the fan, but Breitschwerdt et al. teaches a membrane being arranged in such a configuration in Figs. 1-4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the membrane configuration of Breitschwerdt et al. into the apparatus of Hill et al. to allow a plurality of membranes to be arranged in parallel to increase the flow capacity of the apparatus, as is well known in the art.



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10. Claims 27 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US 6,651,658 B1) and Japanese Patent Application Publication JP 62-83304, and further in view of King (US 6,383,507 B1).

Hill et al. and JP 62-83304 do not disclose an anti-bacterial material being provided in the apparatus, but King teaches providing Zn in water to kill bacteria in col. 1; lines 39-56.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Zn of King in the water tub of Hill et al. and JP 62-83304 to prevent a buildup of bacteria, as suggested by King in col. 1, lines 39-56.

11. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US 6,651,658 B1) and Japanese Patent Application Publication JP 62-83304, and further in view of Hardy, Jr. et al. (US 6,866,041 B2).

Hill et al. and JP 62-83304 do not teach an aroma supplying unit for adding aroma to the oxygen enriched air, but Hardy, Jr. et al. teaches a similar apparatus having an aroma supplying unit (80) in Fig. 3 and col. 1, line 43 to col. 5, line 23.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the aroma supplying unit of Hardy, Jr. et al. into the apparatus of Hill et al. and JP 62-83304 to enhance the mood of the people or person receiving the oxygen-enriched air, as suggested by Hardy, Jr. et al. in col. 1, lines 43-47.

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12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US 6,651,658 B1) and Japanese Patent Application Publication JP 62-83304, and further in view of Sun et al. (US 6,447,731 B1).

Hill et al. and JP 62-83304 do not teach an anion generator, but Sun et al. teaches using an anion generator (17) to generate anions to be mixed with an air stream in Figs. 2 and 3 and col. 1, line 41 to col. 2, line 60.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the anion generator of Sun et al. into the apparatus of Hill et al. and JP 62-83304 to activate the cells and help in blood circulation of the people or person receiving the oxygen-enriched air, as suggested by Sun et al. in col. 1, lines 46-48.

#### ***Allowable Subject Matter***

13. Claims 14-16, 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claim 14, the prior art made of record does not teach or fairly suggest the apparatus of claim 3 wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air, and the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit and then to execute a ventilating operation for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit.

With regard to claim 15, the prior art made of record does not teach or fairly suggest the apparatus of claim 3 wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air, the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit, a stand-by stage during which the discharge unit stops operating is provided between the oxygen-enriched air generating operation and the ventilating operation, and a ventilating operation is then performed for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit.

With regard to claim 16, the prior art made of record does not teach or fairly suggest the apparatus of claim 3 wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air, and if an operation stop signal is provided to the control unit during the oxygen-enriched air generating

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operation, the control unit changes an operation of the apparatus from an oxygen-enriched air generating operation mode to a stand-by stage mode, a ventilating operation mode and a stop mode in that sequence.

With regard to claim 18, the prior art made of record does not teach or fairly suggest the apparatus of claim 3 further comprising a humidity detecting unit for measuring ambient humidity and wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air and the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit and then to execute a ventilating operation for a period of time to discharge the air other than the oxygen-enriched air from the discharge unit, and the control unit varies the period of time for the ventilating operation time according to information provided from the humidity detecting unit.

With regard to claim 19, the prior art made of record does not teach or fairly suggest the apparatus of claim 3 further comprising a measuring unit for measuring a time during which the oxygen-enriched air generating operation is carried out and wherein air other than the oxygen-enriched air is introduced into the air passage of the oxygen-enriched air and the control unit controls the apparatus to perform an oxygen-enriched air generating operation for a time period to discharge the oxygen-enriched air from the discharge unit and then to execute a ventilating operation for a period of time

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to discharge the air other than the oxygen-enriched air from the discharge unit, and the control unit varies the period of time for the ventilating operation according to information provided from the measuring unit.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Nemser et al, Kutt et al., Wallace et al., Meirav, Schmidt et al. and Andrieux references disclose similar devices.

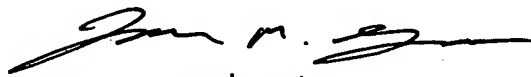
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene  
Primary Examiner  
Art Unit 1724

  
9/30/07

jmg  
September 30, 2007